ABSTRACT

An optical receiver configuration and method of controlling an optical signal receiver adjusts a decision threshold to reduce the bit error rate (BER). The receiver includes a comparator having a data input and a digital data output. An error detection & correction circuit provides an error signal representative of the number of corrected "1"s and "0"s in the data output from the comparator. Based on the error signal, a control circuit modifies the comparator decision threshold in a direction to reduce the BER of the receiver. Dynamic modification of the decision threshold may also be accomplished. A relative percentage error indicator is preferably used as the basis of changing the decision threshold value. The relative percentage error indicator may be used to determine how much to adjust the decision threshold at each iteration of the method to more quickly arrive at an acceptable decision threshold and prevent overshoot. A searching method may also be used to determine the usable range of the comparator before tuning the decision threshold.